

**G012**  
**Bis(2-ethylhexyl)terephthalate [6422-86-2]**

**Results of Testing**

Chemical Name	CAS No.	Study Code/Type	Protocol/Guideline	Species	Exposure	Dose/Concentration	No. per Group	Results	Reference
Bis(2-ethylhexyl)-terephthalate	6422-86-2	EEATOX Acute fish toxicity	Non-TSCA Protocol/ Guideline (see docket #OPTS- 42039)	Rainbow trout	96 hr, flow-through	0.022, 0.045, 0.090, 0.18, 0.35 mg/L (nominal)	Not specified	Neither mortality nor abnormal effects were observed. The 7-day observed No-Effect-Level of the test material was the highest mean measured test concentration, 0.25 mg/L.	50 FR 1892; 5/3/85, OTS0507302
Bis(2-ethylhexyl)-terephthalate	6422-86-2	EEBIOC Mollusk Biocon- centration study	Non-TSCA Protocol/ Guideline (see docket #OPTS- 42039))	Eastern oysters	38 day, salt water	50 µg/L (nominal)	Not specified	The aqueous <sup>14</sup> C-residue concentrations remained relatively constant throughout the exposure period. The mean concentration of 48.4 ± 7.56 µg/L represents 97% the nominal concentration of 50 µg/L. The maximum bioconcentration factor of the <sup>14</sup> C-labeled test material was 790. The maximum concentration in the test animals was observed on day 3 of the exposure period. Analysis indicated that 79.4-80.7% of the accumulated <sup>14</sup> C-residue of the test material, and 19.3-20.6% were metabolites and/or degradation products.	52 FR 2152; 1/20/87, OTS0510738
Bis(2-ethylhexyl)-terephthalate	6422-86-2	EECLIF Fish early life stage	Non-TSCA Protocol/ Guideline (see docket #OPTS- 42039)	Rainbow trout	60 day, flow-through	0.014, 0.024, 0.047, 0.15, 0.28 mg/L (mean measured)	Not specified	No effects were noted on hatchability, survival of fry, or growth as measured by length or weight at the limit of solubility. The maximum acceptable toxicant concentration was 0.28 mg/L (measured) at 25EC.	51 FR 16203; 5/01/86, OTS0510733
Bis(2-ethylhexyl)-terephthalate	6422-86-2	EEOTHR Oyster shell deposition test	Non-TSCA Protocol/ Guideline (see docket #OPTS- 42039)	Eastern oysters	96 hr, flow-through	31.2, 62.5, 125, 250, 500 µg/L (nominal)	Not specified	The estimated 96-hr EC <sub>50</sub> value for the test material measured was >624 µg/L, the highest concentration tested. Reduced shell deposition was observed in the solvent controls which received 0.50 mL of acetone per liter of seawater, a concentration of solvent equal to that delivered at the high concentration of the test material. No reduction in shell deposition was attributed to the test material.	52 FR 2152; 1/20/87, OTS0510737
Bis(2-ethylhexyl)-terephthalate	6422-86-2	EESEED Seed germination study	Non-TSCA Protocol/ Guideline (see docket #OPTS- 42039)	radish, rye- grass, soybean seeds	16 hr light/8 hr dark photoperiod, 14 day	0.15, 1.5, 15, 150, 1500 µg/L (nominal)	Not specified	The EC <sub>50</sub> value was estimated to be greater than 1400 µg/L (measured) for radish and ryegrass seeds. For soybean seeds, the EC <sub>50</sub> value was estimated to be greater than 1500 µg/L (measured). No toxic trend was apparent.	51 FR 27598; 8/1/86, OTS0510736
Bis(2-ethylhexyl)-terephthalate	6422-86-2	EFBDEG Biodegradation study	Non-TSCA Protocol/ Guideline (see docket #OPTS- 42039)	Not applicable	28 day, shake flask using carbon-free deionized water.	1 mg/L carbon equivalent	Not applicable	Gas chromatographic measurement of the test material remaining in the flasks at the end of the radiolabeled study indicated that 56% of the original test material was degraded in 28 days. Radioanalysis found 40.2% of the original activity present in the KOH trappings. It is suggested that the test material was susceptible to both ultimate and primary degradation with an environmental half-life of >28 days for ultimate degradation and <28 days for primary degradation.	50 FR 1892; 5/3/85, OTS0510731

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Bis(2-ethylhexyl)-terephthalate	6422-86-2	EFPCHEPART Octanol/water coefficient	Non-TSCA Protocol/Guideline (see docket #OPTS-42039)	Not applicable	Shake flask, well water and sea water	1% and 0.1% (v/v)	Not applicable	The octanol/water partition coefficient (P) of the test compound, was determined through shake-flask batch extraction and gas-liquid chromatography. A mean P value for well water was determined to be $5.2 \times 10^5$ , with a relative standard deviation of 60%. The sea water mean P value was found to be $1.8 \times 10^5$ with a relative standard deviation of 19%.	50 FR 1892; 5/3/85, OTS0507302
Bis(2-ethylhexyl)-terephthalate	6422-86-2	EFPCHEWSOL Water solubility	Non-TSCA Protocol/Guideline (see docket #OPTS-42039)	Not applicable	72 hr in environmental chamber at 25 EC using deionized water, well water, or sea water.	Not applicable	Not applicable	The mean solubilities of the test material in sea water, well water, and deionized water were $6.1 \pm 0.2 \times 10^2$ ppb, $3.5 \pm 0.1 \times 10^2$ ppb, and $15 \pm 0.6 \times 10^2$ ppb, respectively.	50 FR 1892; 5/3/85, OTS0507301
Bis(2-ethylhexyl)-terephthalate	6422-86-2	HEADME Pharmacokinetics (Voluntary test)	Non-TSCA Protocol/Guideline (see docket #OPTS-42039)	rats	Gavage, single dose	100 mg/kg/body wt.	10 males	About 63% of the administered dose was rapidly hydrolyzed to 2-ethylhexanol (2-EH), mono-(2-ethylhexyl)terephthalate (MEHT), and unlabeled terephthalic acid (TPA). The remainder of the dose was excreted unchanged in the feces. Recovery of the administered dose was as follows: in the urine ( $31.9 \pm 10.9\%$ ) and in expired air as $^{14}\text{CO}_2$ ( $3.6 \pm 0.9\%$ ). Major metabolites in the urine included TPA, oxidized metabolites of 2-EH and MEHT, and glucuronic and sulfuric acid conjugates. The total recovery for the dose was $93.0 \pm 2.2\%$ . All tissues examined contained $^{14}\text{C}$ with the highest concentration in the liver and fat. Excretion of 95 and 99% of the total urinary and fecal radioactivity occurred by 24 and 48 hours.	50 FR 5421; 2/6/85, OTS0507299
Bis(2-ethylhexyl)-terephthalate	6422-86-2	HEGTOXCHRM Mammalian cytogenetic study	Non-TSCA Protocol/Guideline (see docket #OPTS-42039)	Chinese hamster ovary cells	<i>in vitro</i>	700, 800, 1000 nL/mL	Not applicable	No significant increases in the frequency of chromosomal aberrations were seen at any dose level with or without metabolic activation.	51 FR 6468; 2/24/86, OTS0206697
Bis(2-ethylhexyl)-terephthalate	6422-86-2	HEGTOXMUTA Mutagenicity study	Non-TSCA Protocol/Guideline (see docket #OPTS-42039)	<i>Salmonella typhimurium</i>	<i>in vitro</i>	0.32-1000 µg/plate	Not applicable	The tested strains used were TA98, TA100, TA1535, TA1537, and TA1538. The test material was not mutagenic when assayed in the presence or absence of metabolic activation.	50 FR 46699; 11/12/85, OTS0510734
Bis(2-ethylhexyl)-terephthalate	6422-86-2	HEGTOXMUTA Mutagenicity study	Non-TSCA Protocol/Guideline (see docket #OPTS-42039)	Chinese hamster ovaries (CHO)	<i>in vitro</i>	1.25, 2.5, 10.0, 20.0 nL/mL	Not applicable	Treated non-activated cultures had cell survivals relative to the solvent control (dimethyl sulfoxide) of 82.3, 87.9, 96.7, 72.9, and 69.2% respectively. Activated cultures had cell survivals of 106.7, 106.3, 114.4, 91.7, and 99.4%, respectively. The test material did not produce mutant frequencies significantly greater than the solvent control either with or without metabolic activation.	51 FR 6468; 2/24/86, OTS0206697

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Bis(2-ethylhexyl)-terephthalate	6422-86-2	HESTOX Subchronic oral toxicity	Non-TSCA Protocol/ Guideline (see docket #OPTS- 42039)	rats	Oral (dietary), 90 day	0, 0.1, 0.5, 1.0 % (w/w)	17-20 males and females	There were statistically significant differences in the treated groups compared to the controls in the following areas: decreased mean corpuscular hemoglobin (0.5% females, 1.0% test animals), hemoglobin (1.0% animals 0.1% males), and hematocrit. Variations of red blood cell morphology were observed in all groups, including microcytosis, anisocytosis, poikilocytosis, and spherocytosis. No treatment-related gross or microscopic abnormalities were observed. There were no treatment-related differences in mortality, body weight gain, food consumption, clinical signs of toxicity, and absolute and relative organ weight.	50 FR 46699; 11/12/85, OTS0510735